INTERNATIONAL STANDARD

ISO 105-Z07

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Textiles — Tests for colour fastness —

Part Z07:
Determination of application solubility and solution stability of water-soluble dyes

Textiles — Essais de solidité des teintures —

Partie Z07: Détermination de la solubilité à l'application et de la stabilité en solution des colorants solubles dans l'eau

Reference number
ISO 105-Z07:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 105-Z07 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

ISO 105 was previously published in thirteen "parts", each designated by a letter (e.g. "Part A"), with publication dates between 1978 and 1985. Each part contained a series of "sections", each designated by the respective part letter and by a two-digit serial number (e.g. "Section A01"). These sections are now being republished as separate documents, themselves designated "parts" but retaining their earlier alphanumeric designations. A complete list of these parts is given in ISO 105-A01.

Annex A of this part of ISO 105 is for information only.

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Textiles — Tests for colour fastness —

Part Z07:
Determination of application solubility and solution stability of water-soluble dyes

1 Scope

This part of ISO 105 describes a method for the determination of the application solubility of water-soluble dyes in the range 40 °C to 90 °C and of their solution stability. The method is not intended to measure absolute solubility.

NOTE 1 Several factors which may influence test results are listed in annex A.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 105. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 105 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1773:1976, *Laboratory glassware — Boiling flasks (narrow-necked).*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

3 Principle

Several solutions of known concentration, including the solubility limit, of the dye to be tested are prepared at a specified temperature. The solutions are then filtered under suction at this temperature in a heatable Nutsch filter and the application solubility limit determined by visual assessment of the filter residues and the measured flow-through time of the filtrate.

The application solubility of dyes is normally determined at 90 °C. For certain classes of dyes the solubility is determined at a lower temperature. In selecting the test temperature, the manufacturer's recommendations are followed. The temperature is indicated in the test report (e.g. application solubility limit determined at 90 °C, 60 °C, etc.).

The solution stability of dyes is determined by storing for 2 h and, as the case requires, cooling the above-mentioned solution before filtration and assessment. The dissolving and storage temperatures are indicated in the test report (e.g. solution stability at 90 °C/60 °C, 60 °C/60 °C, etc.).

4 Apparatus and reagents

4.1 Erlenmeyer flask, wide-mouthed, capacity 500 ml, complying with ISO 1773.

4.2 Heating bath, thermostatically controlled, with magnetic stirring bar 40 mm long by 6 mm diameter, speed of stirrer 500 r/min to 600 r/min.

4.3 Water bath, with temperature regulator (heating/cooling) for adjusting the storage temperature (e.g. 60 °C, 30 °C or 25 °C).